PVP 20

Code: 20MC1101

I B.Tech - I Semester – Regular / Supplementary Examinations – APRIL 2022

LIFE SCIENCES FOR ENGINEERS

(Common to EEE, ME, ECE)

Duration: 3 hours Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

UNIT – I

1. a) Identify the similarities between eye and camera. 7 M
   b) Distinguish between prokaryotes and eukaryotes. 7 M

OR

2. a) Illustrate the structure of compound microscope with a neat diagram. 7 M
   b) Arrange the cell structures in a bacterial cell with detailed explanation. 7 M

UNIT – II

3. a) Calculate the alpha-amylase activity with concentration of test, standard and blank are 17, 45, and 23 respectively. 7 M
   b) Demonstrate the types of fermentation process with examples. 7 M

OR

4. a) Categorize different types of Antibodies and write the structure. 7 M

b) Construct the structure of DNA with a neat diagram. 7 M

UNIT-III

5. Investigate how many number of ATP molecules invested in preparatory phase of glycolysis with detailed explanation. 14 M

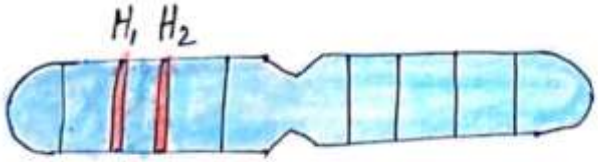
OR

6. a) Conclude by producing the methodology for extracting the chlorophyll from leaves using an organic and inorganic solvents having absorbance values of chlorophyll a and chlorophyll b are 0.34 and 0.42 (Organic), 0.2 and 0.31 (Inorganic) respectively. 7 M

b) Select the types of Bio energetic reactions. 7 M

UNIT – IV

7. a) Show, in gene mapping representation one of the gene is responsible for hair wrinkle texture in male was observed on upper arm of the chromosome as shown in the figure: 7 M



During recombination crossing over of the chromosomes was observed at chromosomal centromere. Identify the possible traits in F1 generation.

b) Step up 9:3:3:1 ratio formation using punnet square. 7 M

OR

8. a) Prepare the three laws postulated by mendel in detail. 7 M

b) Present Gene mapping with an example. 7 M

UNIT – V

9. a) Arrange the types of recombinant vaccines with one example. 7 M

b) Describe the transgenic animals. Explain methods to create transgenic animals with examples. 7 M

OR

10 Build up the applications of biochips and identify the types of biochips. 14 M